## Abstract of the Disclosure

[0051] A system and method for transmitting DS3 signals over long distances over a plurality of twisted pair conductors is provided. A DS3 interface is provided. The DS3 signal is inversely multiplexed into a plurality of data streams. Overhead is added to the data streams to generate packets having stream identifiers and packet number identifiers. At the receive end, received packets are synchronized using the stream and packet number identifiers, and multiplexed back into a DS3 signal. Systems according to embodiments of the invention are compatible with existing loopback codes, passing through a first loopback code received, and optionally entering a loopback mode where more than one loopback code is received consecutively without an intervening loop down code being received. The incorporated technology permits very small packaging and thereby permits use in small outdoor enclosures. Connection interfaces adapt automatically to the application and provide further conveniences for use in telephone company outdoor cabinets.